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Department of the Interior
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Attention: Rules Processing Team

TGS-NOPEC Geophysical Company Comments on 30 CFR Parts 250 and 251 Proposed Rulemaking: Oil and Gas and Sulphur Operations in the Outer Continental Shelf Geological and Geophysical (G&G) Explorations Of the Outer Continental Shelf – Proprietary Terms and Data Disclosure. RIN 1010-AC-81 G&G (July 17, 2002)

Ladies and Gentlemen:

TGS-NOPEC Geophysical Company (TGSN) appreciates the opportunity to comment to the Minerals Management Service (MMS) on the proposed rulemaking covering portions of 30 CFR Parts 250 and 251 concerning geological and geophysical operations on the Outer Continental Shelf. TGS-NOPEC is a global provider of multi-client geoscience data and associated products and services to the oil and gas industry. TGS-NOPEC specializes in the planning, acquisition, processing, interpretation and marketing of non-exclusive seismic surveys worldwide. A majority portion of TGSN investments in geophysical data and associated products exists in the Gulf of Mexico. Therefore, the proposed rule change is of significant importance to TGSN.

TGSN is a member of the International Association of Geophysical Contractors and supports the comment submitted by the association.

MMS proposes to modify the start date for the 50-year proprietary term for geophysical data and the 25-year proprietary term for geophysical information that the MMS acquires and retains pursuant to a permit issued under 30 CFR part 251. The proposed change would alter the start of the proprietary terms for the geophysical data and/or geophysical information. Currently the dates start when the geophysical information is submitted to the MMS. The proposed change will start the proprietary period from the date the permit is issued.

TGSN has three issues associated with this proposed change.
Firstly, prior to acquiring non-exclusive data, geophysical contractors obtain a permit from the MMS. This permit stipulating the terms of acquisition, the terms related to the ownership of the data, and a time frame related to the potential release of data to the public domain. Data owners create financial models for non-exclusive data projects based on these permit terms, as well as estimates of the number of oil companies likely to license the data within the confidentiality

period. If the permit terms are changed after the data have been acquired and licensed to exploration companies, especially as regards the confidentiality period, the data owner's ability to generate additional licenses necessary to recoup their costs or to generate a return on the investment is greatly damaged. Any such action damages our ability to operate under the multi-client business model. In the case of the current proposed CFR change, the proprietary time period associated with the geophysical information will be shortened on all data previously delivered and delivered in the future to the MMS regardless of the terms of the original permit. This is financially detrimental to the data owners.

Secondly, in most cases the geophysical projects created by data owners take multiple years to acquire and process. In the case of large surveys like TGSN's Phase 45 and/or Mississippi Canyon 3D, this proposed change would immediately shorten the proprietary period of the revenue generating geophysical information by the time it takes to acquire and process.

Thirdly, the current code allows for geophysical information (processed data) to have a 25-year proprietary period within a 50-year geophysical data (raw data) period. This allowed the original geophysical data to be reprocessed numerous times within the 50-year period. Each new investment in processing would then have its own 25-year proprietary period. In the last decade, improvements in computing power and imaging algorithms have been changing and developing more rapidly than the actual acquisition technology. Data owners have applied these technologies to the geophysical data, which has helped to open up exploration in the subsalt areas, gas clouds, amplitude plays and to illuminate the deep gas on the continental shelf. With the proposed change, each application of new technology will no longer have a unique proprietary period. This eliminates incentives for data owners to invest in new geophysical information from existing geophysical data. For example, a new investment in 10-year-old data would only have a 15-year proprietary period. Examples of projects where TGSN will lose portions of the proprietary period are attached as Exhibit A for your review.

Additional complications arise when a geophysical data owner has reprocessed data from multiple permits into a single deliverable volume (geophysical information). Merging data from the neighboring dataset helps the data owners to avoid acquiring costly overlap data. In addition, multiple permit areas that have been merged into a seamless volume have improved exploration company's ability to correlate discoveries and improved the image at the former edges of permit areas. Under the proposed change these improved volumes would have to be sliced back up based on the original permit for release to the public. This will add an additional complication for the MMS to extract permit areas from a single processed volume. An illustration is attached as Exhibit B that shows a single processed volume produced by TGSN that incorporates 8 different permits granted from 1990 – 1997. The merging and reprocessing of these datasets was completed in 1998. Additionally TGS-NOPEC is currently underway with another reprocessing effort in this area that is targeted at illuminating the deep gas play. The delivery of this new geophysical information is expected before the end of September.

The acquisition of regional seismic data by geophysical companies for multi-client sales has contributed to the success of the OCS Leasing Program. While MMS considers the current record keeping requirements for managing this data to be complicated and burdensome, TGSN urges MMS to consider remedies other than the ones proposed.

All geophysical companies, who own the majority of the geophysical data in the Gulf of Mexico, keep record of the date in which the geophysical information is available for license to exploration companies. These dates are maintained for financial reporting and amortization purposes. TGSN supports the IAGC position that the date the geophysical information first becomes available would be a logical change to the start time of the proprietary period that the MMS takes. Under this alternate solution, data owners would submit the dates that the projects were first available and certify that the information is accurate. Although under this alternate proposal the proprietary period for geophysical information would still be shortened for a great number of surveys that the MMS has retained, it would be less onerous than the permit date. This would also allow for each investment in new geophysical information to have it's own 25-year proprietary period. TGSN believes that this proposal is in line with the recommendations from the IAGC and we support their position.

MMS also proposes to grant limited access and inspection of geological and geophysical data and information to persons with a direct interest in related MMS decisions and issues. TGSN would like to recommend language for this section that would be consistent with what we use with the exploration companies that license our data. Consistent terminology will clarify and help define what can take place at a geophysical information review. This will also help to maintain the confidentiality that is so critical to our business. Our proposed wording is below.

MMS may show, on the MMS premises, but shall not allow use of, or deliver the geophysical information to a person or company who will be directly affected by MMS decisions under the following conditions

Show means to:

1. Give passive access to, or permit to be viewed, those portions of the geophysical information that are related to the specific geographical areas that are the subject of the consultation.
2. Prevent the summarizing, transcribing, reproducing or photocopying of the geophysical information or the departure from MMS premises with any geophysical information or any summary or description thereof, or knowledge thereof that is comparable to having a copy thereof
3. Prevent the operation of any computer workstation on which geophysical information is displayed.
4. Prevent any alteration or generation of displays, interpretations, or processing of geophysical information or data.

Use Means to:

1. To have or allow access to geophysical information or data in a manner such as to allow altering or generating displays, interpretations, or processing of the geophysical information.

TGSN would also like to voice concern over the amount of geophysical information that will become public in the next 10 years. What happens when information becomes public is not clear. To date the information that has become public all consists of paper copies and is distributed on CD in the form of PDF files. Geophysical information that will become available in the future will be digital. This adds many complications to the process. How will digital information be handled when the rules were written with the concept of paper information in mind? Who will distribute the information? How do we prevent released geophysical information from being altered and re-sold before the 50-year geophysical data release period?

TGSN would suggest that associated with this proposed changes the MMS should address what it means for information to become public. The intent is for the public to have access the same information that the MMS has utilized in the past. The geophysical industry has experienced, in other parts of the world, companies that access public information and use it for more than information purposes. Scanning and creating digital versions that can be altered and resold hurts to original data owner. If this takes place in the 50-year period of data exclusivity then it is very detrimental. TGSN would request that the use of public information be clarified. An example is the warning message at the beginning of home videos. Such notification could state, "*This information is to be used for the evaluation of hydrocarbon potentials by the individuals requesting the information from the MMS. The original data is valuable copy write of TGS-NOPEC and the reproduction or redistribution of this information is prohibited*"

Finally, TGSN would like to address the issue of distribution. In the coming 10 years we foresee a huge amount of information that will be come available to the public. For the MMS to manage or outsource the management of this amount of information and distribution will be a very costly endeavor. Meanwhile each of the major data owners already has data storage and distribution facilities in place. TGSN would suggest that when information becomes public that the MMS list the availability of data on their web site and direct interested parties to the original data owner for copying and distribution. There would be no license fee associated with the delivery of public information. This would provide the data owner with records of where the information has been distributed and some control on potential abuse of the data and information. This solution will save the government a significant cost for data storage and distribution.

TGS-NOPEC is grateful for the opportunity to comment on the proposed rule changes. We appreciate the efforts of the MMS to ensure that the final rules are fair and applicable to all involved. If you have questions or need additional information, feel free to contact me at 713-860-2102 or by email at karen@tgsnopec.com.

Sincerely,

Karen El-Tawil

Karen El-Tawil
Vice President Corporate Marketing Services
IAGC Data Licensing Committee Chairman

Attachments: Exhibits A and B

EXHIBIT A
MMS Geophysical Information
TGS-NOPEC Release Example

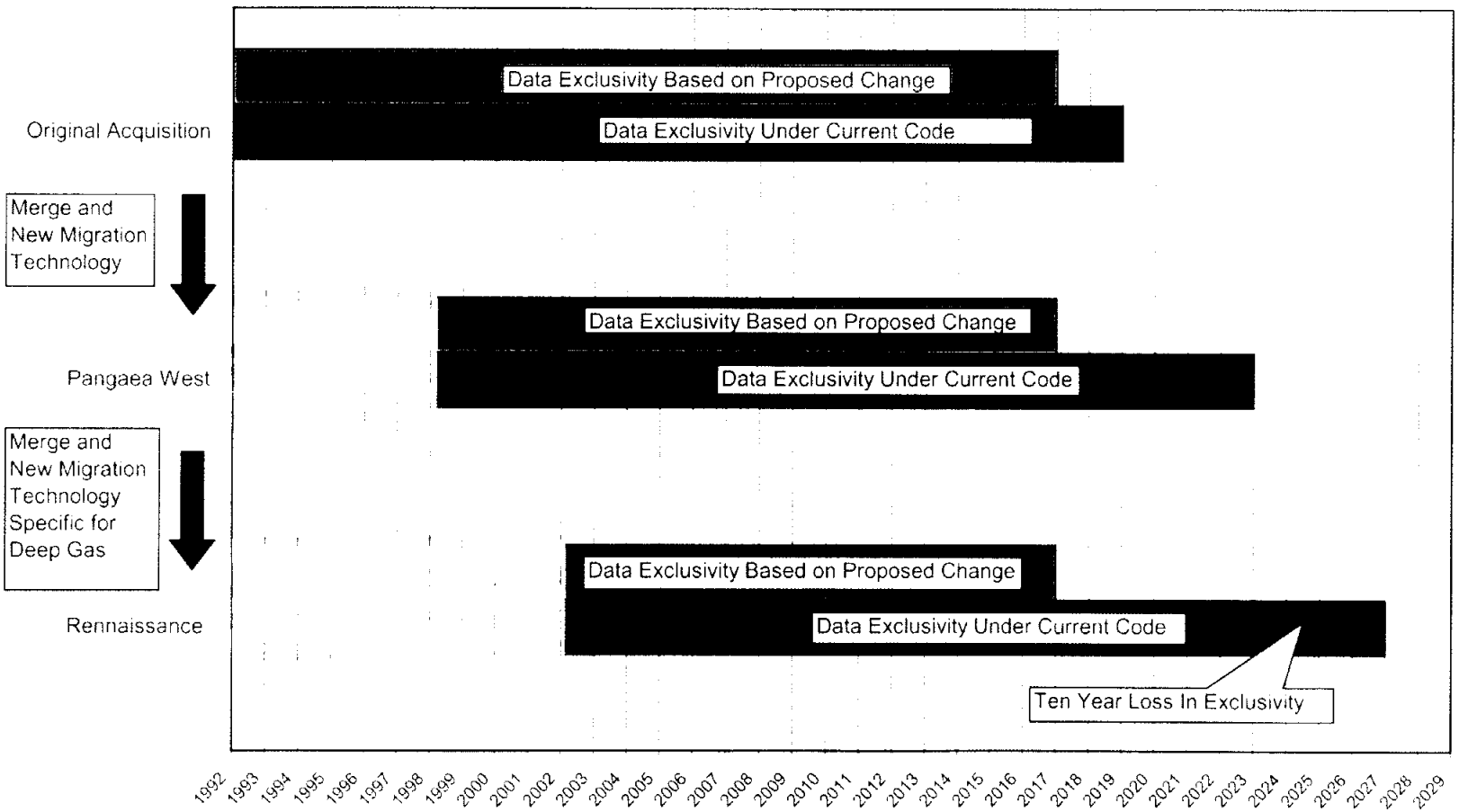


Exhibit B

TGS NOPEC
GEOPHYSICAL COMPANY

PANGAEA WEST
POST STACK PROCESSING SEQUENCE

PREPARE DATA FOR MIGRATION

- Re-Grid original survey (DMO stack) to Pangaea coordinate and numbering system using TGS-NOPEC's priority MAGIC program. Output: 12.5m N-S, 20m E-W.
- Phase match the various survey with West Cameron Area C being the master for Pangaea West. Apply one phase rotation and/or time shift to each original survey.
- WRAP Scale, a proprietary TGS-NOPEC balancing program, calculates a slowly varying spatial and temporal gain to balance amplitudes before merging.
- 3-D merge - output stack.
- Time variant filter.

Frequency Range	Time
0 - 78	50ms
0 - 67	2,000ms
0 - 56	3,000ms
0 - 45	4,000ms
0 - 37	5,000ms
0 - 25	8,000ms

MIGRATION

Pangaea was much too large to migrate as one volume. Pangaea West was broken into 11 separate migrations. Each migration having a 5,000 meter migration aperture, ensuring ample migration halo.

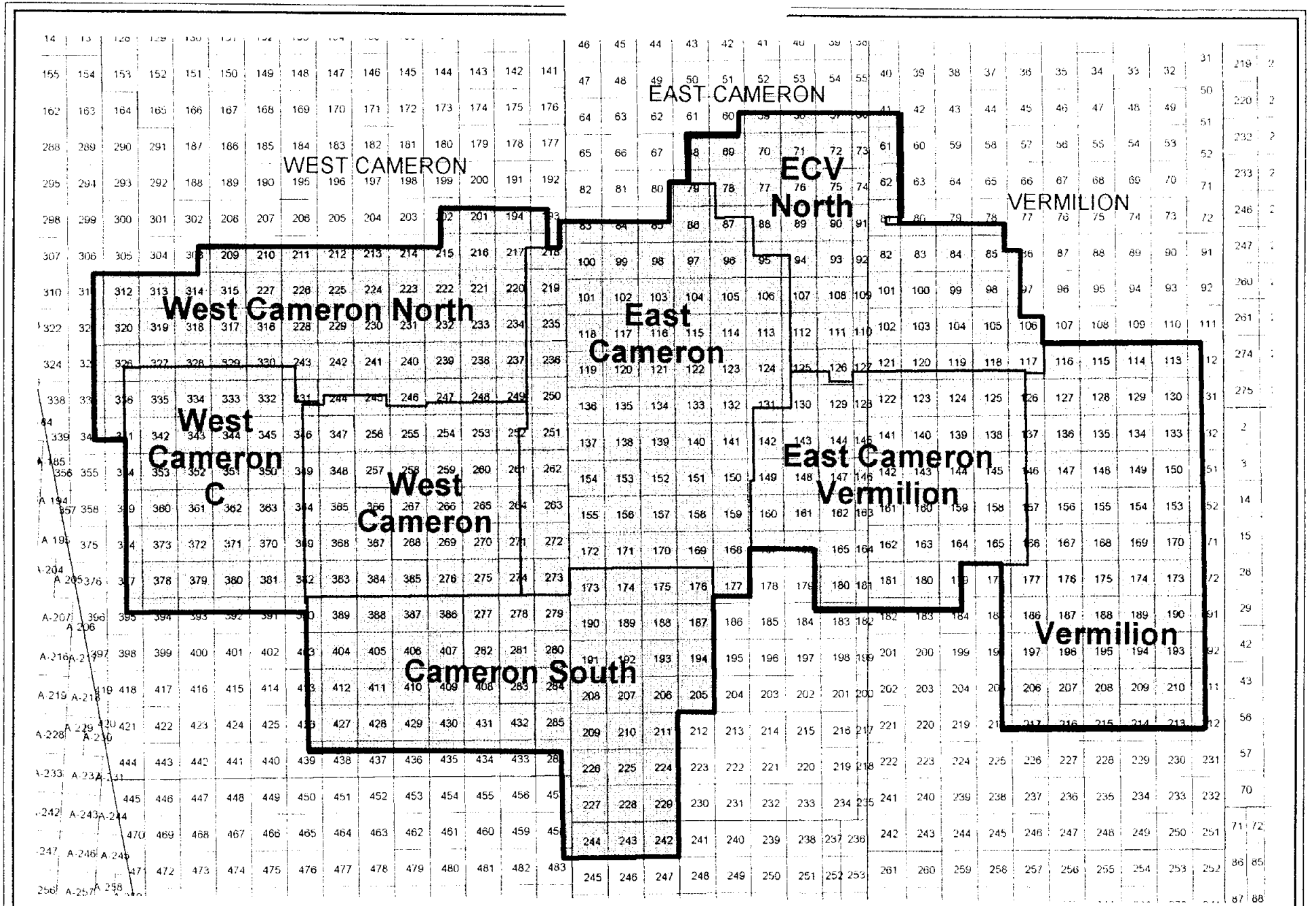
- For the first migration area, a series of migration tests were run to obtain an optimum migration velocity field. Each subsequent migration used the migration velocity scheme from the adjacent migration as a guide (100%). Migrations were then run on a spatially and temporally decimated volume at 95%, 100%, and 103% of these velocities. These migration tests were analyzed to determine a spatially and temporally varying migration velocity field.
- 3-D Phase Shift Turning Wave Migration (one pass) (25m N-S, 20m E-W).
- Interpolate to 12.5m N-S, 20m E-W.
- Merge final migrations into one volume - output raw migration.
- Noise reduction over selected areas - output final migration ("Work Station Ready").

AVAILABLE DELIVERABLES

- Processed stack regridded with WRAP scale - 12.5 x 20 meters (SEG-Y)
- Raw migration tapes -12.5 x 20 meters (SEG-Y)
- Processed migration tapes with noise reduction - 12.5 x 20 meters (SEG-Y)
- Migration velocities

October 15, 2001

Exhibit B



PANGAEA WEST NON-EXCLUSIVE 3D SURVEY